

FIG. 1

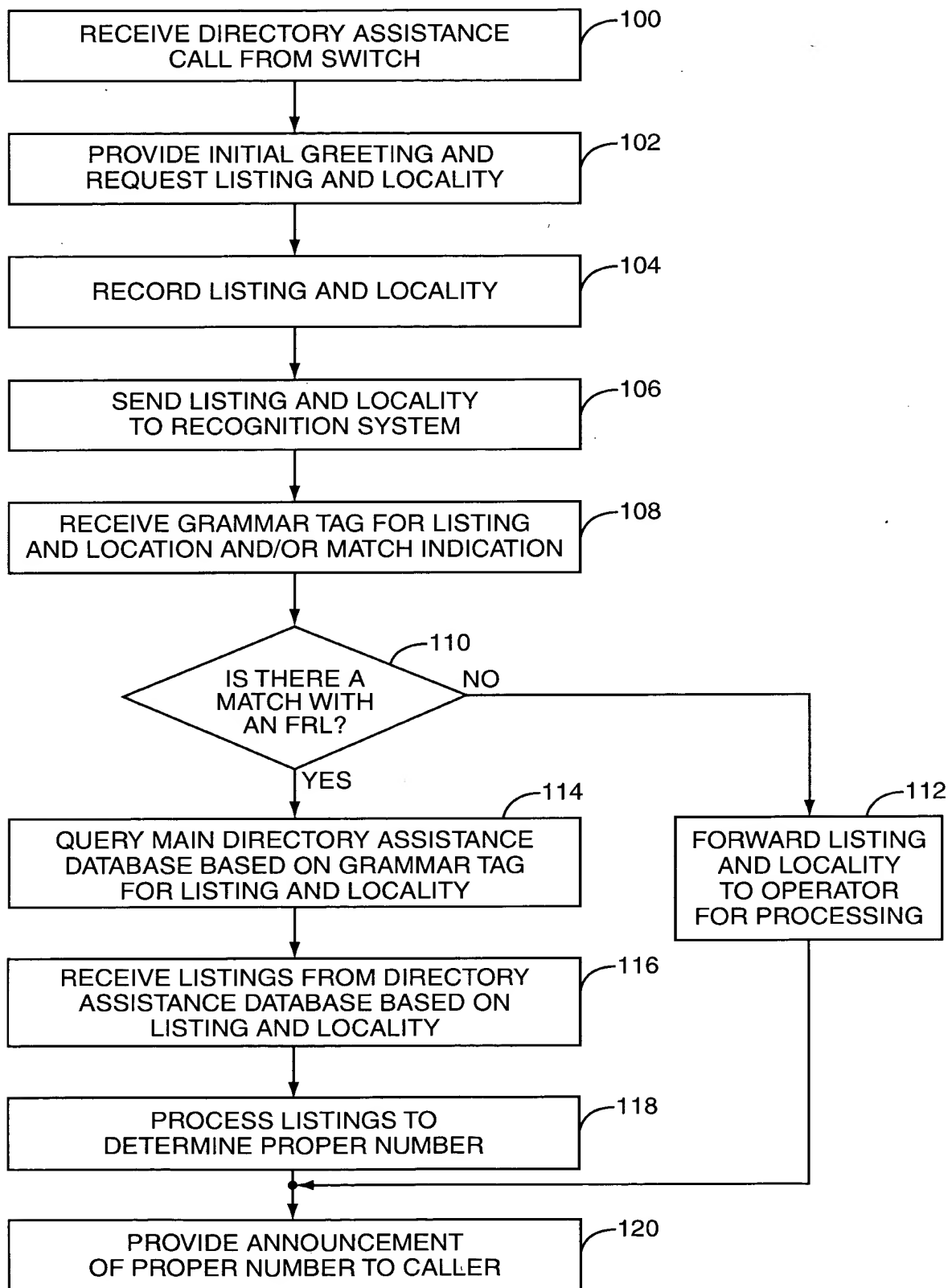


FIG. 2

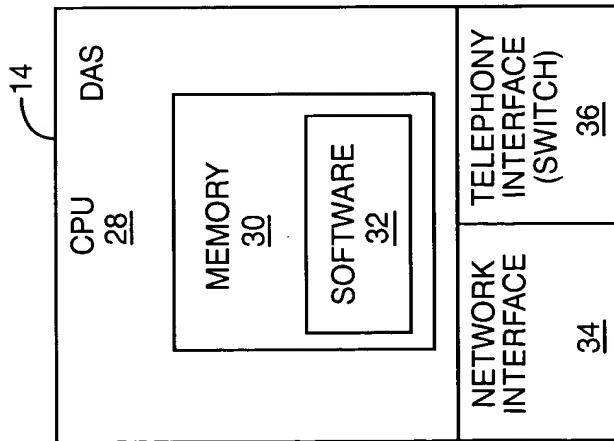


FIG. 3

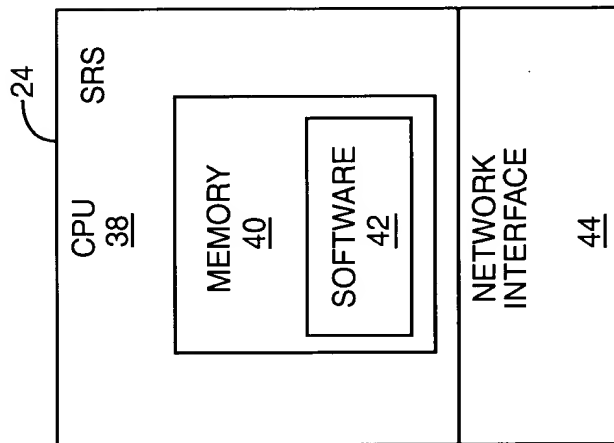


FIG. 4

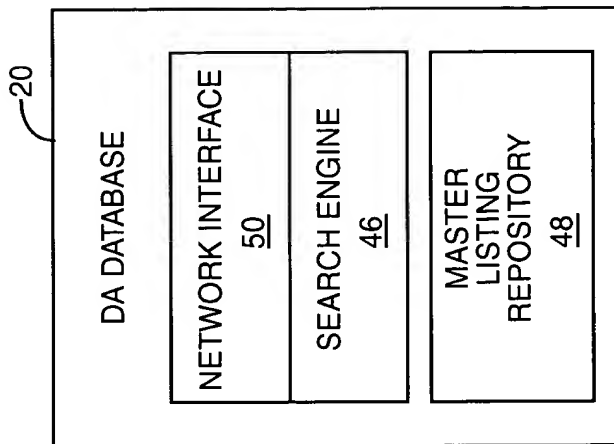


FIG. 5

INITIAL TELEPHONE NUMBER SEARCH

| NUMS | LOCS | LISTINGS | COMMENT AND RESPONSE |
|------|------|----------|---|
| 0 | | | <ul style="list-style-type: none"> • NUMBER CHANGED AFTER FRL NUMBERS WERE EXTRACTED • SEND CALL TO OPERATOR |
| 1 | | | <ul style="list-style-type: none"> • IDEAL RESULTS, NO CONFUSION |
| 1 | | MULT | <ul style="list-style-type: none"> • THE "SAME" BUSINESS CAN BE FOUND MULTIPLE WAYS • OFTEN (BUT NOT ALWAYS) THESE MULTIPLE LISTINGS WILL BE IN A SET • TAILOR THE SUBSEQUENT SEARCHES TO "TARGET" ONE OF THE AVAILABLE LISTINGS TO REDUCE SUBSEQUENT SIFTING • THE CALLER MAY TEND TO "VOLUNTEER" EXTRA IDENTIFYING WORDS, SUCH AS THE STREET, BECAUSE THEY KNOW THAT MULTIPLE LOCATIONS EXIST • CONSIDER A "RICHER" VOCABULARY TO INCREASE THE LIKELIHOOD THAT WE WILL ACCEPT WHAT THE CALLER SAYS |
| 1 | | MULT | <ul style="list-style-type: none"> • THIS MAY BE A "SPECIAL" LISTINGS, SUCH AS AN AIRLINE RESERVATIONS NUMBER • IF VERY FREQUENTLY REQUESTED, THEN DROP THE LOCALITY FROM THE SEARCH CRITERIA TO IMPROVE THE FINDABILITY |

FIG. 6

PRE-RUN-TIME (STATIC) SEARCH

| NUMS | LOCS | LISTINGS | COMMENT AND RESPONSE |
|------|------|----------|---|
| 0 | | | <ul style="list-style-type: none"> ◦ NAME RETURNED BY TEL SEARCH NOT SEARCHABLE ◦ IT MAY HAVE NON-FINDING TEXT IN NAME SUCH AS "IF NO ANSWER" ◦ EDIT DOWN THE NAME IN ORDER TO SEARCH FOR THE LISTING |
| 1 | | | <ul style="list-style-type: none"> ◦ DO NOT NEED LOCALITY TO FIND THIS LISTING, BUT NOT SURE THAT THIS IS OR IS NOT A SPECIAL WIDELY FINDABLE LISTING |
| 1 | | MULT | <ul style="list-style-type: none"> ◦ THE "SAME" BUSINESS CAN BE FOUND MULTIPLE WAYS ◦ OFTEN (BUT NOT ALWAYS) THESE MULTIPLE LISTINGS WILL BE IN A SET ◦ TAILOR THE SUBSEQUENT SEARCHES TO "TARGET" ONE OF THE AVAILABLE LISTINGS TO REDUCE SUBSEQUENT SIFTING ◦ THE CALLER MAY TEND TO "VOLUNTEER" EXTRA IDENTIFYING WORDS, SUCH AS THE STREET, BECAUSE THEY KNOW THAT MULTIPLE LOCATIONS EXIST ◦ CONSIDER A "RICHER" VOCABULARY TO INCREASE THE LIKELIHOOD THAT WE WILL ACCEPT WHAT THE CALLER SAYS |
| 1 | | MULT | <ul style="list-style-type: none"> ◦ THIS MAY BE A "SPECIAL" LISTINGS, SUCH AS AN AIRLINE RESERVATIONS NUMBER ◦ IF VERY FREQUENTLY REQUESTED, THEN DROP THE LOCALITY FROM THE SEARCH CRITERIA TO IMPROVE THE FINDABILITY |
| MULT | 1 | MULT | <ul style="list-style-type: none"> ◦ DIFFERENT NUMBERS IN "SAME" COMMUNITY ◦ SELECT ONE NUMBER BY FIAT AS THE FRL AND TARGET THE SEARCH TO JUST THE ONE DESIRED LISTING ◦ INCREASE VOCABULARY IN HOPE THAT CALLER WILL HELP WITH SELECTION |
| | | MULT | <ul style="list-style-type: none"> ◦ DIFFERENT NUMBERS IN MULTIPLE COMMUNITIES ◦ DEFER PROBLEM TO RUN-TIME IN THE HOPE THAT THE CALLER-SUPPLIED LOCALITY WILL REDUCE THE PROBLEM TO A SIMPLER CASE ◦ SELECT ONE NUMBER BY FIAT AS THE FRL AND TARGET THE SEARCH TO JUST THE ONE DESIRED LISTING |

FIG. 7

001200 0221900

RUN-TIME SEARCH ANALYSIS

| NUMS | LOCS | LISTINGS | COMMENT AND RESPONSE |
|------|------|----------|--|
| 0 | | | <ul style="list-style-type: none"> • THIS IS NO-FIND: RUN-TIME LOCALITY DIDN'T MATCH LISTING |
| 1 | | | <ul style="list-style-type: none"> • IDEAL RESULTS, NO CONFUSION |
| 1 | | MULT | <ul style="list-style-type: none"> • GOOD RESULTS, BUT NEED TO BE CAREFUL WITH CONFIRMATION • HAVE THE CALLER ACCEPT THE NUMBER WITHOUT CONFUSING THEM WITH VARIATIONS BETWEEN THE EQUIVALENT ALTERNATIVES |
| 1 | MULT | | <ul style="list-style-type: none"> • GOOD RESULTS, BUT NEED TO BE CAREFUL WITH CONFIRMATION • HAVE THE CALLER ACCEPT THE NUMBER WITHOUT CONFUSING THEM WITH VARIATIONS BETWEEN THE EQUIVALENT ALTERNATIVES |
| MULT | 1 | MULT | <ul style="list-style-type: none"> • PROBLEM: NEED TO SIFT |
| MULT | | | <ul style="list-style-type: none"> • PROBLEM: NEED TO SIFT |

FIG. 8

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graph TD
    200[IF AN EXACT CALLER-SPECIFIED LOCALITY  
APPEARS FOR ANY NUMBER,  
REMOVE ALL OTHER NUMBERS] --> 202{ONE  
LISTING  
LEFT?}
    202 -- YES --> B((B))
    202 -- NO --> 204[IF THE EXPECTED FREQUENTLY  
REQUESTED LISTING NUMBER IS PRESENT,  
REMOVE ALL OTHER NUMBERS]
    204 --> 206{ONE  
LISTING  
LEFT?}
    206 -- YES --> B
    206 -- NO --> 208[WHEN THE SAME LOCALITY AND LISTING  
HAVE A LOCAL AND A TOLL-FREE NUMBER,  
SELECT THE TOLL-FREE NUMBER  
AND DISCARD THE LISTING  
HAVING THE LOCAL NUMBER]
    208 --> 210{ONE  
LISTING  
LEFT?}
    210 -- YES --> B
    210 -- NO --> A((A))
  
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FIG. 9A

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graph TD
    A((A)) --> 212[212 WHEN THE SAME NAME AND NUMBER APPEARS IN MULTIPLE COMMUNITIES, COMBINE LISTINGS]
    212 --> 214{214 ONE LISTING LEFT?}
    214 -- YES --> 222[AUTOMATE REMAINING LISTING]
    214 -- NO --> 216[216 IF THE RESULT HAS LESS THAN A PREDEFINED NUMBER OF CANDIDATES REMAINING, LET THE CALLER CHOOSE BY ANNOUNCING THE OPTIONS AND RESPONDING TO CALLER FEEDBACK IN THE FORM OF A VOICE COMMAND OR A KEY-PRESS]
    216 --> 218{218 ONE LISTING LEFT?}
    218 -- YES --> 222
    218 -- NO --> 220[220 OTHERWISE, TRANSFER THE DIRECTORY ASSISTANCE REQUEST TO AN OPERATOR]
    220 --> 222
    B((B)) --> 222
    style B fill:none,stroke:none

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FIG. 9B